

STREPSIPTERA FROM THE SMITHSONIAN INSTITUTION'S SURVEY  
OF DOMINICA. WITH DESCRIPTION OF A NEW SPECIES  
OF ELENCHIDAE<sup>1</sup>

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Dr. Paul J. Spangler, Curator, Division of Coleoptera, United States National Museum (USNM) submitted for identification seven male Strepsiptera from the Smithsonian Institution's biological survey of the Island of Dominica. Six were Elenchidae belonging to a new species of *Pseudelenchus* Ogloblin (1925) and the seventh specimen provides a new record of *Corioxenos antestiae* Blair (1936).

The material preserved in fluid was first examined under magnification ranging from 10× to 80× since some of the structures can be more profitably observed before permanent mounting. This same range of magnification was employed for examination of the two dry mounts, one of which was in very poor condition, lacking both head and abdomen.

Slides were studied with a Wild M20 compound microscope having 10× oculars and 3×, 10× and 20× objectives, and its camera lucida attachment was used for accurate drawings.

I wish to acknowledge the professional help and encouragement in this study which has been given by my husband, Dr. Richard M. Fox. Both Mr. R. D. Pope of the British Museum (Natural History) and Dr. Paul Spangler at USNM have assisted me by checking some specific problems. Richard L. Satterwhite, our staff artist, as usual perfected my drawings for publication and Joseph Y. Quil finished the manuscript copy.

Family *Elenchidae* Pierce

In a recent paper (1967) I mentioned the disagreement among authors as to the exact diagnostic characters of the Elenchidae, the major character under discussion being the number of antennal segments. Five-segmented antennae were specified as diagnostic by Pierce (1907) who originally established the family with type-genus *Elenchus* Curtis, of which the type-species is *E. walkeri* (Curtis) (1831). I have not seen the holotype of *E. walkeri* which is in the Curtis Collection in Melbourne, Australia, but Mr. R. D. Pope of the British Museum (Natural History) kindly examined a paratype in the Dale Collection and reported (personal communication) that the antennae are clearly 5-segmented. *Elenchus solomonensis* Fox and *Elenchinus eastopi* Fox, which I described from the British Museum (Natural History) collection, both have five antennal segments. This

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is also true of at least 11 of the 16 species previously described under various genera of Elenchidae.

With 5-segmented antenna:

*Elenchus tenuicornis* (Kirby) (1815).

*Elenchus walkeri* (Curtis) (1829). Type-species of *Elenchus* by monotypy.

*Elenchus templetoni* Westwood (1835).

*Deinelenchus australensis* Perkins (1905). Type-species of *Deinelenchus* by monotypy.

*Liburnelenchus* (= *Mecynocera*) *koebeli* Pierce (1909). Type-species of *Liburnelenchus* by monotypy.

*Elenchus melanias* Perkins 1910.

*Elenchus melanias silvestris* Perkins 1910.

*Liburnelenchus heidmanni* Pierce (1918).

*Elenchinus heidmanni* Pierce (1918). Type-species of *Elenchinus* by monotypy.

*Elenchinus japonica* Esaki and Hashimoto (1931).

*Sogatelelenchus mexicanus* Pierce (1961). Type-species of *Sogatelelenchus* by monotypy.

With 4-segmented antenna:

*Pseudelenchus carpathicus* Ogloblin (1925). Type-species of *Pseudelenchus* by monotypy.

*Elenchinus delphacophilus* Ahlberg (*vide* Lindberg, 1939).

*Elenchinus chlorionae* Lindberg (1939).

*Elenchus falcipennis* Luna de Cavalho (1956).

Not known; publication unavailable:

*Elenchus maorianus* Courlay 1953 (*vide* Kifune, 1964).

Under these circumstances it does not seem systematically sound to define the family, as did Bohart (1941), as having 4-segmented antennae, but rather to redefine it as possessing either 4 or 5, with species in at least two genera. Other diagnostic characters of the species described show too much similarity to justify establishment of another family.

Since the species described below has 4-segmented antennae, it should be assigned to *Pseudelenchus* Ogloblin (1925), type-species *P. carpathicus* Ogloblin, 1925, which is the only genus in the family based on a species with 4-segmented antennae.

***Pseudelenchus spangleri*, n. sp.**

(Figs. 1-6)

Measurements are stated for the holotype and the averages for specimens seen are given in parentheses.

Male: Body, light brown, 0.95 mm. long (0.84 mm.); hindwing, 1.0 mm. broad (0.95 mm.) with expanse of 2.2 mm. (2.0 mm.); width of head between eyes, 0.15 mm.

Head: Squared vertex. 4-segmented antenna set laterally well in front of eyes; segment I prominent, about same size as II; III is branched with tip of

flabellum reaching slightly beyond middle of IV. Eye with 4 large ocelli visible dorsally on inner rim, probably 12-16 total. Mouthparts with very stout mandible somewhat rounded apically, a third longer than distal segment of maxillary palpus; 2-segmented palpus with proximal segment two-thirds length of distal one.

Metathorax: prescutum with sharply triangular posterior and rounded anterior margin protruding beyond that of the scutum, well separated from scutellum. Scuti with defined sutures separating them from membranous portion above the broad, almost rectangular scutellum. Large, bandlike postlumbium. Postscutellum about three-fourths the length of anterior metathoracic sclerites.

Forewing: Small paddle-shaped structure.

Hindwing: 5 main veins. C and Sc coalesced for part of their length and appearing to be a single strong vein; R very short with single detached vein below;  $M_1$  and  $M_2$  about equal length; single A.

Legs: All with 2-segmented tarsus. Midleg with slender femur longer than tibia (7:5). Hindleg with femur much stouter than, and equal in length to, tibia. First tarsal subsegment in all legs broader and twice the length of terminal one.

Aedeagus: Quite thick for over half its length then tapering evenly to pointed apical tip; diagonal rows of tiny bristles on proximal third.

Abdominal segment X: Short with tapered posterior margin.

Female, larva and host unknown.

Holotype male: Clarke Hall, Dominica, Malaise trap, 15 October 1964, Spangler; USNM 70069. 4 paratype males divided with two slides at CM, 2 slides and 1 dry mount at USNM. A damaged dry mount, probably this species, USNM, not included in type-series.

Discussion: There are several characteristics which separate this species from *P. carpathicus* Ogloblin. *P. spangleri* is much smaller (0.8 mm.: 1.5 mm.); the metathorax is longer than the abdomen; the postlumbium is not so broadly curved; the head is narrower with eyes closely set, not slightly pedunculate. Ogloblin states that there are only four main veins in the hindwing while *P. spangleri* shows five. However, his figure indicates that this apparent discrepancy is a matter of terminology since he seemed to consider C and Sc as a single vein.

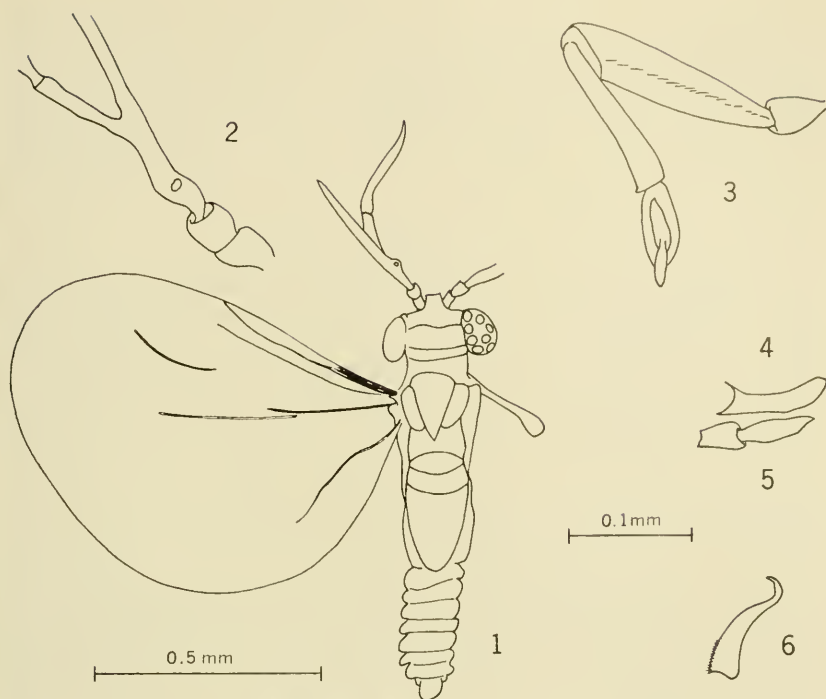
This species is named in honor of the collector, Paul J. Spangler.

#### *Corioxenos antestiae* Blair (1936)

Single male specimen, Cabrit Swamp, Dominica, 18 July 1964, O. S. Flint, USNM.

The specimen was examined in fluid before mounting. Due to an accident, the material on the slide was disoriented and contaminated with dust, but efforts to repair it might have resulted in further damage to this sole specimen and were avoided. Basic structures can be observed, and although the aedeagus is broken, its tip shows under the edge of the left hindwing.

There are no bristles along the aedeagus of this specimen, nor were



Figs. 1-6. *Pseudelenchus spangleri*, n. sp.: 1, body showing antenna and wing in dorsal aspect; 2, detail of antennal segments; 3, hindleg; 4, mandible; 5, maxillary palpus; 6, aedeagus. (Figs. 2-6 use 0.1 mm scale.)

there any found by Blair, but Kirkpatrick (1937) noted aedeagal bristles in the extensive material he studied. It is also smaller than the fresh African specimens studied by Kirkpatrick which is doubtless due to the rapid shrinkage of dead material. The wide gap in distribution between the slopes of Kilimanjaro and the swamps of Dominica may well be accounted for by the probability that *antestiae*'s host, a pest on coffee, was imported from Africa along with the coffee tree seedlings for Dominican plantations.

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## A NEW SPECIES OF THE GENUS *MACROCEPHALUS* SWEDERUS FROM MEXICO

(HEMIPTERA : PHYMATIDAE)

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Through the kind offices of Dr. Joseph C. Shaffner, Associate Professor at the Texas A. & M. University, College Station, Texas, I have had the privilege of examining a small lot of *Macrocephalus* Swederus from the southern United States and Mexico, for which I express to him my sincere thanks.

In this lot were six known and one new species. Five of the species are common in this area: *M. cimicoides* Swederus, five specimens